IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Inventor(s): Mills

App'n Ser. No.: 09/501,621

Filing Date: 02/09/2000

Group Art Unit: 1754

Examiner(s): Kalafut for the

Secret Committee

Title: DOPED THERMIONIC CATHODE AND METHOD OF MAKING THE DOPED

THERMIONIC CATHODE

November 4, 2005

NEW INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Attached are PTO/SB/O8B forms listing the enclosed documents. Copies of the enclosed documents are attached to the presently filed Information Disclosure Statement and/or to the Attachments to the Response filed herewith.

Applicant advises the Secret Committee that took over examination of his pending applications relating to his lower-energy hydrogen technology that Applicant has made a concerted effort to review those applications for documents cited therein and to make those documents of record in each case. Because, however, Applicant's lower-energy hydrogen applications were consolidated under a single Examiner, Bernard Eng-Kie Souw, Applicant believes that the Committee should already be familiar with the totality of these documents. Nonetheless, for purposes of completeness and ensuring that all cited documents have been brought to the PTO's attention, Applicant provides the following list of applications relating to his lower-energy hydrogen technology:

Application No. 09/501,621 Page 2 of 3

U.S. Ser. No.	Eiling Data
	Filing Date 11/01/04
10/513,026	
10/494,571	5/6/04
10/469,913	9/5/2003
10/331,725	12/31/02
10/319,460	11/27/02
09/669,877	9/27/00
09/813,792	3/22/01
09/513,768	2/25/00
09/678,730	10/4/00
09/362,693	7/29/99
09/181,180	10/28/98
09/225,687	1/6/99
09/110,717	7/7/98
09/110,694	7/7/98
09/501,622	2/9/00
09/501,621	2/9/00
09/111,003	7/7/98
09/111,160	7/7/98
09/110,678	7/7/98
09/009,455	1/20/98
09/009,294	1/20/98
09/008,947	1/20/98
09/009,837	1/20/98
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08/467,911	6/6/95
08/416,040	4/3/95
08/107,357	8/16/93
08/075,102	6/11/93
07/825,845	1/28/92
07/626,496	12/12/90
07/345,628	4/28/89
07/341,733	4/21/89

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If necessary, please accept this Information Disclosure Statement under Rule 97(c) and charge the requisite Rule 17(p) fee to our Deposit Account No. 50-0687 under Order No. **62-226** for which purposes this paper is submitted in duplicate.

This Information Disclosure Statement is intended to fully comply with the rules, but should the Examiner find any part of its required content to have been omitted, prompt notice to that effect is earnestly solicited, along with additional time under Rule 97(f), to enable Applicant to fully comply.

Consideration of the foregoing remarks and enclosures, including return of a copy of the attached PTO/SB/08A and B forms with the Examiner=s initials in the left column per MPEP § 609 and an early action on the merits of this application, are earnestly solicited.

Respectfully submitted, Manelli Denison & Selter PLLC

Вγ

Jeffrey S. Melcher Reg. No.: 35,950

Tel. No.: (202) 261-1045 Fax. No.: (202) 887-0336

Customer No. 20736

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		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS	
Examine r Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	58	R. L. Mills, "Classical Quantum Mechanics," Physics Essays, Vol. 16, No. 4, December, (2003), pp. 433-498. (Web Publication Date: May 23, 2002.)	
	60	R. L. Mills, J. Sankar, A. Voigt, J. He, B. Dhandapani, "Synthesis of HDLC Films from Solid Carbon," Journal of Materials Science, in press. (Web Publication Date: May 3, 2002.)	
	77	J. Phillips, R. L. Mills, X. Chen, "Water Bath Calorimetric Study of Excess Heat in 'Resonance Transfer' Plasmas," J. Appl. Phys., Vol. 96, No. 6, (2004) 3095–3102. (Web Publication Date: June 16, 2003.)	
	80	R. L. Mills, "The Fallacy of Feynman's Argument on the Stability of the Hydrogen Atom According to Quantum Mechanics," Annales de la Fondation Louis de Broglie, submitted. (Web Publication Date: Jan. 27, 2003.)	
	81	R. Mills, P. Ray, B. Dhandapani, W. Good, P. Jansson, M. Nansteel, J. He, A. Voigt, "Spectroscopic and NMR Identification of Novel Hydride Ions in Fractional Quantum Energy States Formed by an Exothermic Reaction of Atomic Hydrogen with Certain Catalysts," European Physical Journal: Applied Physics, 28, (2004), 83–104. (Web Publication Date: Feb. 21, 2003.)	
	88	R. Mills, J. Sankar, A. Voigt, J. He, P. Ray, B. Dhandapani, "Role of Atomic Hydrogen Density and Energy in Low Power CVD Synthesis of Diamond Films," Thin Solid Films, 478, (2005) 77–90. (Web Publication Date: Dec. 22, 2003.)	
	94	R. L. Mills, "The Nature of the Chemical Bond Revisited and an Alternative Maxwellian Approach," Physics Essays, in press. (Web Publication Date: Aug. 6, 2003.)	
	96	J J. Phillips, C.K. Chen, R. L. Mills, "Evidence of the Production of Hot Hydrogen Atoms in RF Plasmas by Catalytic Reactions Between Hydrogen and Oxygen Species," Spectrochimica Acta Part B: Atomic Spectroscopy, submitted. (Web Publication Date: Sept. 12, 2003.)	
	97	R. L. Mills, P. Ray, B. Dhandapani, "Evidence of an Energy Transfer Reaction Between Atomic Hydrogen and Argon II or Helium II as the Source of Excessively Hot H Atoms in RF Plasmas," Journal of Plasma Physics, in press. (Web Publication Date: Sept. 26, 2003.)	
	98	R. L. Mills, Y. Lu, J. He, M. Nansteel, P. Ray, X. Chen, A. Voigt, B. Dhandapani, "Spectral Identification of New States of Hydrogen," New Journal of Chemistry, submitted. (Web Publication Date: Nov. 18, 2003.)	

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Substitute	e for form 1449B/PTO		Complete if Known		
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	(use as many shee	is as necessary)	Examiner Name	Kalafut	
Sheet 2 12			Attorney Docket Number		

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. R. Mills, B. Dhandapani, J. He, "Highly Stable Amorphous Silicon Hydride from a Helium Plasma Reaction," Materials Chemistry and Physics, submitted. (Web Publication Date: Nov. 17, 2003.) R. L. Mills, Y. Lu, M. Nansteel, J. He, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Division of Fuel Chemistry, Session: Chemistry of Solid, Liquid, and Gaseous Fuels, 227th American Chemical Society National Meeting, March 28-April 1, 2004, Anaheim, CA. R. L. Mills, "Exact Classical Quantum Mechanical Solutions for One- through Twenty-Electron Atoms," Phys. Essays, submitted. (Web Publication Date: April 22, 2004.) R. L. Mills, Dhandapani, W. Good, J. He, "New States of Hydrogen Isolated from K ₂ CO ₃ Electrolysis Gases," Electrochim. Acta, submitted. (Web Publication Date: April 28, 2004.)	T ²
Plasma Reaction," Materials Chemistry and Physics, submitted. (<i>Web Publication Date: Nov. 17, 2003.</i>) R. L. Mills, Y. Lu, M. Nansteel, J. He, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Division of Fuel Chemistry, Session: Chemistry of Solid, Liquid, and Gaseous Fuels, 227th American Chemical Society National Meeting, March 28-April 1, 2004, Anaheim, CA. R. L. Mills, "Exact Classical Quantum Mechanical Solutions for One-through Twenty-Electron Atoms," Phys. Essays, submitted. (<i>Web Publication Date: April 22, 2004.</i>) R. L. Mills, Dhandapani, W. Good, J. He, "New States of Hydrogen Isolated from K ₂ CO ₃ Electrolysis Gases," Electrochim. Acta, submitted. (<i>Web Publication Date: April 28,</i>	
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R. Mills, "Physical Solutions of the Nature of the Atom, Photon, and Their Interactions to Form Excited and Predicted Hydrino States", New Journal of Physics, submitted.	
R. Mills, K. Akhtar, B. Dhandapani, "Tests of Features of Field-Acceleration Models for the Extraordinary Selective H Balmer α Broadening in Certain Hydrogen Mixed Plasmas," Journal of Applied Physics, submitted. (web publication June 24, 2005, www.blacklightpower.com).	
	Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Division of Fuel Chemistry, Session: Advances in Hydrogen Energy, 228th American Chemical Society National Meeting, August 22–26, 2004, Philadelphia, PA. R. Mills, "Physical Solutions of the Nature of the Atom, Photon, and Their Interactions to Form Excited and Predicted Hydrino States", New Journal of Physics, submitted. R. Mills, K. Akhtar, B. Dhandapani, "Tests of Features of Field-Acceleration Models for the Extraordinary Selective H Balmer α Broadening in Certain Hydrogen Mixed Plasmas," Journal of Applied Physics, submitted. (web publication June 24, 2005,

		
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¹ Unique citation designation number. ² Applicant is to place a check mark here is English language Translation is attached.

Substitute for form 1449B/PTO		Complete if Known		
			Application Number	09/501,621
INI	ORMATION	DISCLOSURE	Filing Date	02/09/2000
STATEMENT BY APPLICANT (use as many sheets as necessary)			First Named Inventor	Mills
			Group Art Unit	1754
			Examiner Name	Kalafut
Sheet	3	12	Attorney Docket Number	

		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS	
Examine r Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	105	J. Phillips, C. K. Chen, R. L. Mills, "Evidence of Catalytic Production of Hot Hydrogen in RF-Generated Hydrogen/Argon Plasmas," J. Appl. Physics, submitted. (Web Publication Date: September 7, 2004.)	
	106	R. L. Mills, "Exact Classical Quantum Mechanical Solution for Atomic Helium which Predicts Conjugate Parameters from a Unique Solution for the First Time," Foundations of Science, submitted. (Web Publication Date: October 28, 2004.)	
	107	R. L. Mills, "Maxwell's Equations and QED: Which is Fact and Which is Fiction," Physica Scripta, submitted. (Web Publication Date: October 28, 2004.)	
	108	R. L. Mills, J. He, M. Nansteel, B. Dhandapani, "Catalysis of Atomic Hydrogen to New Hydrides as a New Power Source," International Journal of Global Energy Issues (IJGEI). Special Edition in Energy System, submitted. (Web Publication Date: April 4, 2005.)	
	109	R. L. Mills, M. Nansteel, J. He, B. Dhandapani, "Low-Voltage EUV and Visible Light Source Due to Catalysis of Atomic Hydrogen," J. Plasma Physics, submitted. (Web Publication Date: April 15, 2005.)	
	110	R. L. Mills, J. He, Z, Chang, W. Good, Y. Lu, B. Dhandapani, "Catalysis of Atomic Hydrogen to Novel Hydrides as a New Power Source," Prepr. Pap.—Am. Chem. Soc., Div. Fuel Chem. 2005, 50(2). (Web Publication Date: April 22, 2005.)	
	111	R. L. Mills, J. He, Z, Chang, W. Good, Y. Lu, B. Dhandapani, "Catalysis of Atomic Hydrog Novel Hydrogen Species H ⁻ (1/4) and H ₂ (1/4) as a New Power Source," Thermochimica submitted. (Web Publication Date: May 6, 2005.)	
	112	R. L. Mills, J. He, Y. Lu, Z, M. Nansteel, Chang, B. Dhandapani, "Comprehensive Identific and Potential Applications of New States of Hydrogen," Central European Journal of Physubmitted. (Web Publication Date: May 9, 2005.)	

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STATEMENT BY APPLICANT			APPLICANT	First Named Inventor	Mills	
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Sheet	4	of	12	Attorney Docket Number		

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-		CRITCHLEY <i>et al</i> , "Energy shifts and forbidden transitions in H ₂ due to electronic g/u symmetry breaking", <i>Molecular Physics</i> , 2003, Vol. 101, Nos. 4-5, pp. 651-661, Taylor & Francis Ltd.		
		GAMBUS et al., "Spectroscopic Study or Low-Pressure Water Plasmas and Their Reactions with Liquid Hydrocarbons", Energy & Fuels, 2002, 16, pp. 172-176, American Chemical Society		
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		AKATSUKA <i>et al.</i> , "Stationary population inversion of hydrogen in an arc-heated magnetically trapped expanding hydrogen-helium plasma jet", <i>Physical Review E</i> , 49, 2, pp. 1534-1544, February, 1994, The American Physical Society		
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Substitute	e for form 1449B/PTO			Complete if Known			
				Application Number	09/501,621		
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Sheet	5	of	12	Attorney Docket Number			

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		LINDSAY et al., "A remeasurement of the 2.4 μ m spectrum of $J = H_2$ pairs in a parahydrogen crystal", Journal of Molecular Spectroscopy, 218. Pp. 131-133, 2003					
		JUAREZ et al, "Photoelectron angular distributions of rotationally resolved states in para-H2+: A closer to the dynamics of molecular photoionisation", The University of Manchester Atomic, Molecular & Laser Manipulation Group, pp.1-5					
		WEISSTEIN, "Ortho-Para Hydrogen", http://scienceworld.wolfram.com/physics/Ortho-ParaHydrogen.html					
		SMITH, "Infrared spectra of BO ₂ - in the alkali halides-L. Potassium and rubidium halides", <i>Spectrochimica Acts</i> , Vol. 30A, pp. 875-882, Pergamon Press, 1974					
		LEITCH et al., "Raman Specreoscopy of Hydrogen Molecules in Crystalline Silicon", Physical Review Letters, 81:2, pp. 421-424, July 13, 1998, The American Physical Society					
_		CHEN et al., "Key to Understanding Interstitial H ₂ in Si", Physical Review Letters, 88:10, pp. 105507-1 - 105507-4, March 11, 2002, The American Physical Society					
		CHEN et al., "Rotation of Molecular Hydrogen in Si: Unambiguous Identification of Ortho-H ₂ and Para-D ₂ ", <i>Physical Review Letters</i> , 88:24, pp. 245503-1 - 245503-4, June 17, 2002, The American Physical Society					
		LAVROV <i>et al.</i> , "Ortho and Para Interstitial H ₂ in Silicon", <i>Physical Review Letters</i> , 89:21, pp. 215501-1 - 215501-4, November 18, 2002, The American Physical Society					
		STAVOLA <i>et al</i> , "Interstitial H ₂ in Si: are all problems solved?", <i>Physica B</i> , pp. 58-66, 200s Elsevier B.V.					

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		MILLS et al., "Catalysis of Atomic Hydrogen to Novel Hydrides as a New Power Source", pp. 1-8, BlackLight Power, Inc.				
		DECIUS et al, "Force Constants of the Metaborate Ion in Alkali Halides", The Journal of Chemical Physics, 56:10, pp. 5189-5190, May 15, 1972				
		"Infrared spectra of the metaborate ion in alkali halide solid solution", Research Notes, pp. 600-602				
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		SCHOENFELDER <i>et al.</i> , "Kinetics of Thermal Decomposition of TiH ₂ ", <i>J. Vac. Sci. Technol.</i> , 10:5, pp. 862-870, Sept./Oct. 1973				
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		"Emission Characteristics of 'M Type' Dispenser Cathodes", HeatWave Labs, Inc., TB-117, May 24, 2001, Spectra-Mat, Inc.				
		"Practical Aspects of Modern Dispenser Cathodes", <i>Microwave Journal</i> , September, 1979				

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		"Standard Series Barium Tungsten Dispenser Cathodes", HeatWave Labs, Inc., TB 198, July 29, 2002, Spectra-Mat, Inc.	-						
		ABATE et al., "Optimization and enhancement of H' ions in a magnetized sheet plasma", Review of Scientific Instruments, 71:10, pp. 3689-3695, October 2000, American Institute of Physics							
		CHABERT et al., "On the influence of the gas velocity on dissociation degree and gas temperature in a flowing microwave hydrogen discharge", Journal of Applied Physics, 84:1, pp. 161-167, July 1, 1009, American Institute of Physics							
		GORDON et al., "Energy coupling efficiency of a hydrogen microwave plasma reactor", Journal of Applied Physics, 89:3, pp. 1544-1549, February 1, 2001, American Institute of Physics							
		RADOVANOV <i>et al.</i> , "Time-resolved Balmer-alpha emission from fast hydrogen atoms in low pressure, radio-frequency discharges in hydrogen", <i>Appl. Phys. Lett.</i> , 66:20, pp. 2637-2639, May 15, 2995							
		DJUROVIC et al., "Hydrogen Balmer alpha line shapes for hydrogen-argon mixtures in a low-pressure rf discharge", J. Appl. Phys., 74:11, pp. 6558-6565, December 1, 1993, American Institute of Physics							
		KONJEVIC, "Plasma Broadening and Shifting of Non-Hydrogenic Spectral Lines: Present Status and Applications", <i>Physics Reports</i> , 315, pp. 339-401, 1999, Elsevier							
		BENESCH et al., "Line shapes of atomic hydrogen in hollow-cathode discharges", Optics Letters, 9:8, pp. 338-340, August 1984, Optical Society of America							
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		ADAMOV, et al., "Doppler Spectroscopy of Hydrogen and Deuterium Balmer Alpha Line in an Abnormal Glow Discharge", IEEE Transactions on Plasma Science, 31:3, pp. 444-454, June 3, 2003							
Examiner Signature		Date Considered							

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		JOVICEVIC et al., "Excessive Balmer line broadcasting in microwave-induced discharges", Journal of Applied Physics, 95:1, pp. 24-29, January 1, 2004, American Institute of Physics			
	DJUROVIC <i>et al.</i> , "Hydrogen Balmer alpha line shapes for hydrogen-argon mixtures in a low-pressure rf discharge", <i>J. Appl. Phys.</i> , 74:11, pp. 6558-6565, December 1, 1993, American Institute of Physics				
	MAYO, "Thermalization and Energy Distribution in Cold Laboratory Plasmas Comments on the Possibility of Mono-Energetic Species", April 20, 2004				
		VIDENOVIC et al., "Spectroscopic investigations of a cathode fall region of the Grimm-type glow discharge", Spectrochimica Acta Part B, 51, pp. 1707-1731, 1996			
		BARBEAU et al., "Spectroscopic investigation of energetic atoms in a DC hydrogen flow discharge, pp. 1168-1174, 1990 IOP Publishing Ltd.			
		KONJEVIC et al., "Emission Spectroscopy of the Cathode Fall Region of an Analytical Glow", J. Phys. IV France, 7, pp. C4-247-C4-258, October 1997			
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Substitute	e for form 1449B/PTO		 	Complete if Known		
0000000				Application Number	09/501,621	
181	FORMATION		SCLOSURE	Filing Date	02/09/2000	
	ATEMENT E			First Named Inventor	Mills	
				Group Art Unit	1754	
(use as many sheets as necessary)				Examiner Name	Kalafut	
Sheet	9	of	12	Attorney Docket Number		

		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					
		OLTHOFF et al., "Studies of Ion Kinetic-Energy Distributions in the Gaseous Electronics Conference RF Reference Cell", Journal of Research of the National Institute of Standards and Technology, 100:4, pp. 383-400, July-August 1995					
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	į	D. Luggenholscher, U. Czarnetzki, and H.F. Dobele Institut fur Laser-und Plasmaphysik, Universitat Essen, Germany, "Investigations on Electric Field Distributions in a Microwave Discharge in Hydrogen"					
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